Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A channel quality measurement apparatus adapted to measure a quality of a channel over which has been transmitted a sequence of symbols produced by encoding and constellation mapping a source data element sequence, the apparatus comprising:

a symbol de-mapper, receiving as input a sequence of received symbols over the channel whose quality is to be measured, said symbol de-mapper being adapted to perform symbol de-mapping on said sequence of received symbols to produce a sequence of soft data element decisions;

a soft decoder, receiving as input the sequence of soft data element decisions produced by the symbol de-mapper, said soft decoder being adapted to decode the sequence of soft data element decisions to produce a decoded output sequence;

an encoder, receiving as input the decoded output sequence produced by the soft decoder, said encoder being adapted to re-encode the decoded output sequence with an identical code to a code used in encoding the source data element sequence to produce a re-encoded output sequence; [[and]]

a correlator, receiving as input the sequence of soft data element decisions produced by the symbol de-mapper, and the re-encoded output sequence produced by the encoder, said correlator being adapted to produce a channel quality indicator output by determining a correlation between the sequence of soft data element decisions and the re-encoded output sequence[[.]];

wherein the apparatus is adapted to feed the channel quality indicator back to a transmitter for use in determining and applying an appropriate coding rate and modulation to the source data element sequence.

2. (Original) A channel quality measurement apparatus according to claim 1 wherein the symbol de-mapper is adapted to perform QPSK symbol de-mapping.

3. (Original) A channel quality measurement apparatus according to claim 1 wherein the symbol de-mapper is adapted to perform Euclidean distance conditional LLR symbol de-mapping.

4. (Original) A method of measuring channel quality of a channel over which has been transmitted a sequence of symbols produced by encoding and constellation mapping a source data element sequence, the method comprising:

receiving a sequence of received symbols over the channel whose quality is to be measured;

symbol de-mapping said sequence of received symbols to produce a sequence of soft data element decisions;

decoding said sequence of soft data element decisions to produce a decoded output sequence;

re-encoding said decoded output sequence to produce a re-encoded output sequence using a code identical to a code used in encoding the source data element sequence; and

correlating said re-encoded output sequence, and said sequence of soft data element decisions to produce a channel quality indicator output.

5. (Original) A method of channel quality measurement according to claim 4 wherein the symbol de-mapping of said sequence of received symbols is QPSK symbol de-mapping.

6. (Original) A method of channel quality measurement according to claim 4 wherein the symbol de-mapping of said sequence of received symbols comprises Euclidean distance conditional LLR de-mapping.

7. (Original) A method of measuring OFDM channel quality of an OFDM channel over which has been transmitted a sequence of OFDM symbols, the OFDM symbols containing an encoded and constellation mapped source data element sequence, the method comprising:

receiving a sequence of OFDM symbols over the OFDM channel whose quality is to be measured;

symbol de-mapping said sequence of received symbols to produce a sequence of soft data element decisions;

decoding said sequence of soft data element decisions to produce a decoded output sequence pertaining to the source data element sequence;

re-encoding said decoded output sequence to produce a re-encoded output